

## REMARKS

Claims 1, 3, 5-10, and 12-13 are pending in this application. By this Amendment, claims 2, 4, 11 and 14 are canceled and claims 1, 3, 5, 8 and 9 are amended. No new matter is added.

### Section 112, Section Paragraph, Rejection

The Office Action rejects claims 8 and 9 under 35 U.S.C. § 112, second paragraph, as being indefinite. In particular, the Office Action objects to the terminology "and derivatives thereof" in claim 8 (2 instances) and claim 9 (one instance). However, Applicants note that the Office Action does not object to the terminology "and modified products thereof" in claim 9. Applicants further note that the present specification defines the "modified products as derivatives" (see page 4, lines 15-17).

Thus, Applicants have changed each instance "and derivatives thereof" in claims 8 and 9 to recite and --modified products thereof--.

For the above reasons, reconsideration and withdrawal of the rejection of claims 8 and 9 under 35 U.S.C. § 112, second paragraph, are respectfully requested.

### Section 103(a) Rejections

The Office Action rejects claims 1-12 and 14 under 35 U.S.C. § 103(a) as being obvious over JP9-220524 in view of Kawabata (U.S. Patent No. 4,442,140). Claim 13 is somewhat similarly rejected under 35 U.S.C. § 103(a) as being obvious over JP 9-220524

in view of Kawabata and further in view of EP 913447. These rejections are traversed as they may apply to the amended claims.

The present claims are directed to a hard surface-treating agent (claim 1), a stain-proofing agent (claim 3) and a surface treating method (claims 5-10 and 12-13). As amended, all of the claims require an agent that comprises titanium oxide of an anatase form, a thermoplastic resin and a mixture of organic solvent and water.

The Office Action acknowledges at the top of page 4 that JP 09-220524 does not teach or suggest the inclusion of water. However, the Office Action asserts that Kawabata et al. discloses water and the addition of water to organic solvent would be obvious.

Actually, however, Kawabata et al. clearly teaches against a combination of water and solvent. In particular, Kawabata et al. discloses that their composition has the unique feature that “[s]ince it contains no solvent, the possibilities of environmental pollution and fire hazard are eliminated and, moreover, good economy is achieved by avoiding waste of resources” (see Kawabata et al. column 5, lines 32-35).

Thus, as Kawabata et al. does not teach or suggest, and in fact teaches against, a combination of water and solvent, in order to expedite prosecution and this application and overcome the rejections of record, the organic medium in the claims has been further defined as being a mixture of organic solvent and water.

In particular, as mentioned above, Kawabata et al. teach against a combination of water and an organic solvent. Kawabata et al. emphasize the advantage of the exclusion of solvents in column 5, lines 32-35. Consequently, any assertion to make up the deficiency of JP 09-220524 by combining Kawabata et al. with JP 09-220524 is not

reasonable and therefore not justified. Although Kawabata et al. disclose the use of water, the skilled artisan would never have combined it with the JP 09-220524.

According to the inventors, as a solvent for the metal oxide powder, especially the titanium oxide powder, the mixture of an organic solvent and water is superior to an organic solvent in the following points: (1) Metal oxides are inorganic compounds. So, the surface of the metal oxide powder has a stronger affinity to water than to organic solvents. As a result, the dispersibility in a mixture of an organic solvent and water is better than that in an organic solvent. (2) A titanium oxide having an anatase crystalline structure has a specific gravity of about  $3.90\text{ g/cm}^3$ . Since organic solvents generally have a specific gravity of much smaller than  $1.0\text{ g/cm}^3$  and the difference between the specific gravity of the titanium oxide and that of an organic solvent is large, dispersing the powder in an organic solvent is sometimes difficult. On the other hand, when the mixture is employed for the medium, the difference between the specific gravity of titanium oxide and that of the medium becomes smaller, which facilitates the dispersion. (3) When the medium is the mixture, the medium itself becomes an emulsion, which increases the viscosity of the medium and results in a stable dispersion of an organic powder. (4) The mixture of an organic solvent and water can treat aqueous stains on the surface better than an organic solvent.

Therefore the combination of water and an organic solvent has technical advantages over an organic solvent.

EP 913447 is applied only because it teaches the inclusion of a surfactant.

For at least the above reasons, Applicants respectfully submit that the amended claims are patentable over the combination of JP 09-220524 and Kawabata et al. or the

same combination further in view of EP 913447. Reconsideration and withdrawal of the rejections of claims 1-12 and 14 and of claim 13 are thus respectfully requested.

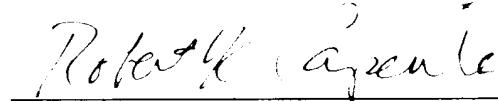
**Conclusion**

Applicants respectfully submit that this application is in condition for allowance and such action is earnestly solicited. If the Examiner believes that anything further is desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact Applicants' undersigned representative at the telephone number listed below to schedule a personal or telephone interview to discuss any remaining issues.

As the United States Patent and Trademark Office was closed on September 18 and 19, this paper is timely filed and no extension of time is necessary.

In the event this paper is not considered to be timely filed, Applicants respectfully petition for an appropriate extension of time. In the event that any additional fees are due with respect to the filing of this paper the Commissioner is authorized to charge any fee deficiency or credit any overpayment to Deposit Account No. 01-2300, **referencing attorney docket number 108915-00003.**

Respectfully submitted,



Robert K. Carpenter  
Registration No. 34,794

Customer No. 004372  
AREN'T FOX KINTNER PLOTKIN & KAHN, PLLC  
1050 Connecticut Avenue, N.W., Suite 400  
Washington, D.C. 20036-5339  
Tel: (202) 857-6000  
Fax: (202) 638-4810  
RKC/tdd